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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,711	07/20/2005	Uwe Forster	016906-0408	8940

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EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/542,711

Applicant(s)

FORSTER ET AL.

Examiner

Teresa J. Walberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/20/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 10, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Jung et al (DE 19826881) (cited by applicant).

Jung et al disclose a heat exchanger (Fig. 1) having at least one collecting box (11) which is divided into two longitudinal ducts (16, 17, Fig. 2) by a longitudinal dividing wall (28, 29 in Fig. 3), and a series of flat tubes (12, 13 in Fig. 2) with flat tube ends (Fig. 2), accommodated in openings in the collecting box (31, 32 in Fig. 4) and fluidly connected to the longitudinal ducts (Fig. 4), the collecting box being bent from a prepared sheet metal strip (Fig. 3) with longitudinal edges having tongues (at 30, see Fig. 3 for the cross section at a tongue area and Fig. 4 for a cross section between the tongue areas) and a central connecting region having cutouts (Fig. 3), the longitudinal edges (28, 29 in Fig. 4) forming the longitudinal dividing wall and being anchored in the cutouts via the tongues (Figs. 3 and 4), the tongues and cutouts being arranged on the side of the collecting box facing the flat tubes (Fig. 4), the tongues and cutouts being arranged between the tubes (Fig. 3), the longitudinal dividing wall having at least one opening (33, 34 in Fig. 4).

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (DE 19826881) in view of Dawson et al (US 4,770,240).

Jung et al disclose a heat exchanger as claimed with the exception of the tongues and cutouts being arranged on the side of the collecting box facing away from the flat tubes and the cross sections of the ducts being approximately circular. However, Dawson et al disclose a heat exchanger including tongues and cutouts being arranged on the side of the collecting box facing away from the flat tubes and the cross sections of the ducts being approximately circular. It would have been obvious in view of Dawson et al to provide tongues and cutouts arranged on the side of the collecting box facing away from the flat tubes in the heat exchanger of Jung et al, the motivation being to enable easier inspection of the connections and to make the cross sections of the ducts approximately circular in the heat exchanger of Jung et al, the motivation being to make the ducts more resistant to high pressure.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (DE 19826881) in view of Ryan et al (US 5,761,808).

Jung et al disclose a heat exchanger as claimed with the exception of the collecting box having stops for the tubes. However, Ryan et al disclose a heat exchanger including a collecting box having stops for the tubes (36). It would have been obvious in view of Ryan et al to provide stops for the tubes in the heat exchanger of Jung et al, the motivation being to enable easier assembly of the device.

6. Claims 4, 6, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (DE 19826881) in view of Kobayashi et al (DE 199 06 289)(cited by applicant).

Jung et al disclose a heat exchanger as claimed with the exception of the longitudinal dividing wall having notches in which the tube ends engage. However, Kobayashi et al disclose a heat exchanger including a longitudinal dividing wall having notches in which the tube ends engage (see Fig. 28). It would have been obvious in view of Kobayashi et al to provide a longitudinal dividing wall having notches in which the tube ends engage in the heat exchanger of Jung et al, the motivation being to enable easier assembly of the device.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (DE 19826881) in view of Dawson et al (US 4,770,240) and further in view of Kobayashi et al (DE 199 06 289).

Jung et al disclose a heat exchanger as claimed with the exception of the central connecting region which accommodates the tongues being stepped back in the direction of the longitudinal dividing wall and curved toward the outside. However, Kobayashi et al disclose a heat exchanger including a central connecting region which accommodates the tongues being stepped back in the direction of the longitudinal dividing wall and curved toward the outside. It would have been obvious in view of Kobayashi et al to provide a central connecting region which accommodates the tongues and is stepped back in the direction of the longitudinal dividing wall and curved toward the outside in the heat exchanger of Jung et al, the motivation being to make the ducts more resistant to high pressure.

8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jung et al (DE 19826881) in view of Patel et al (US 5,761,808).

Jung et al disclose a heat exchanger as claimed with the exception of the cross sections of the ducts being different in shape or size. However, Patel et al disclose a heat exchanger the ducts have different shapes or sizes (see Fig. 1). It would have been obvious in view of Patel et al to provide ducts have different shapes or sizes in the heat exchanger of Jung et al, the motivation being to enable easier adjustment of the flow rate and direction.

9. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the present drawings are informal. See Form PTO-948, attached.

Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application.

The requirement for corrected drawings will not be held in abeyance.

10. The disclosure is objected to because of the following informalities: the references to specific claims numbers, noted on pages 1 and 2 of the specification, should be removed, since the claims are subject to being amended or renumbered.

Appropriate correction is required.

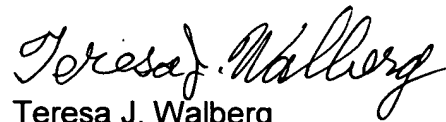
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jalilevand et al, Rhodes et al, Hayashi, and Fischer et al are cited to show heat exchanger header structure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Teresa J. Walberg
Primary Examiner
Art Unit 3744

tjw